

THE INVENTION CLAIMED IS:

1. An improved patty-forming apparatus, comprising:
- a mold plate having a mold cavity through a thickness thereof;
- 5 a mold plate support structure carrying said mold plate and guiding said mold plate for reciprocating motion, said structure including a wall facing said mold plate, said mold plate reciprocating along said wall;
- a food product delivery channel carried by said structure and arranged on one side of the mold plate, said delivery channel having a fill opening into said
- 10 cavity when said mold plate is in a fill position with respect to said structure; and
- said wall including a fill channel, said cavity open to said fill channel and said fill opening when said mold plate is in said fill position.
2. The apparatus according to claim 1, wherein said wall comprises a
- 15 breather plate facing said mold plate, said breather plate having at least one breather hole therethrough open to said cavity when said mold plate is in said fill position.
3. The apparatus according to claim 2, wherein said breather plate is
- 20 arranged on an opposite side of said mold plate from said fill opening.
4. The apparatus according to claim 1, wherein said mold plate is arranged to reciprocate between a knock out position located beyond said wall

where food product is removed from said cavity, and said fill position, said fill opening closed by said mold plate before said cavity extends beyond said wall.

5. The apparatus according to claim 2, wherein said fill channel
- 5 comprises a recess formed into said breather plate, said recess open along a length thereof into said cavity.

6. The apparatus according to claim 2, wherein said mold plate comprises
- 10 a plurality of cavities across said mold plate and said recess is common to all said cavities.

7. A food patty-forming apparatus, comprising:
- a machine frame;
- a mold plate having at least one cavity and mounted to reciprocate in a
- 15 longitudinal direction with respect to said frame to position the cavity between a filling position and a patty knock out position;
- a food product delivery channel mounted stationary with respect to said frame and having a fill opening into said cavity when said mold plate is in said filling position;
- 20 a breather plate facing said mold plate and stationary with respect to said frame, said breather plate having a breather hole therethrough located remote from said fill opening, and a fill channel located close to said fill opening, extending

toward said breather hole, said fill channel increasing a transverse food product flow area along said longitudinal direction to assist filling of said cavity.

8. The apparatus according to claim 7, wherein said fill channel  
5 comprises a recess formed into said breather plate.

9. The apparatus according to claim 7, wherein said fill opening is closed  
by said mold plate before said cavity extends beyond said breather plate.

10. The apparatus according to claim 7, wherein said breather plate  
10 includes an air recycle channel formed on a side thereof opposite said fill opening,  
and said breather hole is open between said cavity and said recycle channel.

11. The apparatus according to claim 7, wherein said fill channel is located  
15 in part directly facing said fill opening.

12. The apparatus according to claim 7, wherein said breather plate is  
located above said mold plate and said fill opening is below said mold plate.

- 20 13. A breather plate for a patty-forming machine, the patty-forming  
machine having a machine frame, a mold plate having at least one cavity and  
mounted to reciprocate in a longitudinal direction with respect to said frame to  
position the cavity between a fill position and a patty knock out position, a food

product delivery channel mounted stationary with respect to the frame and having a fill opening into the cavity when the mold plate is in the fill position, a breather plate facing the mold plate and stationary with respect to the frame, the breather plate having a breather hole therethrough, the breather plate comprising:

- 5                   a plate-like body having a plurality of breather holes therethrough, and at least one fill recess sized and arranged to be in registry with at least one cavity of a mold plate when said mold plate is in the fill position, said fill recess increasing a transverse food product flow area along the longitudinal direction to assist filling of the cavity.

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14.   The breather plate according to claim 13, wherein said recess extends transversely and is common to a plurality of cavities when said mold plate is in the fill position.

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15.   The breather plate according to claim 13, wherein said breather holes are spaced longitudinally from said fill slot and said fill recess extends longitudinally between said fill slot and said breather holes.